

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 19, 2005, 16:37:04 ; Search time 80 seconds
(without alignments)

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Title: US-09-913-772-2
Perfect score: 1823
Sequence: 1 MKAIFVILMAAKPONTWYAGG.....DRRVEIEVKGYKEVNTOPAG 344

Total number of hits satisfying chosen parameters:

2002273

Minimum DB seq length: 0
Minimum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_23seqp04:**

- 1: geneseqp1980s:**
- 2: geneseqp1990s:**
- 3: geneseqp2000s:**
- 4: geneseqp2001s:**
- 5: geneseqp2002s:**
- 6: geneseqp2003as:**
- 7: geneseqp2003bs:**
- 8: geneseqp2004s:**

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

ALIGNMENTS

26	984	54.0	179	2	AAR95645 Klebsiell
27	689	37.8	344	5	AAM50724 Haemophil
28	688	37.7	344	5	AAM50721 Haemophil
29	687	37.7	153	5	AbB83156 Partic O
30	687	37.7			Rat1787 Sequence
31	685	37.6	344	5	AAM50718 Haemophil
32	684	37.5	344	5	AAM50719 Haemophil
33	684	37.5	344	5	AAM50717 Haemophil
34	684	37.5	344	5	AAM50716 Haemophil
35	684	37.5	344	5	AAM50722 Haemophil
35	683	37.5	344	5	AAM50725 Haemophil
37	680.5	37.3	341	5	AAM50720 Haemophil
38	680.5	37.3	341	5	AAM50723 Haemophil
39	680.5	37.3	341	5	AAM50726 Haemophil
40	678	37.2	344	5	AAM50727 Haemophil
41	671	36.8	364	3	Aab41588 Virulence
42	671	36.8	364	5	ABP54540 Actinobac
43	667	36.6	364	3	AAY97899 Actinobac
44	667	36.6	364	3	AAY96097 Actinobac
45	655.5	36.0	359	2	AAB66294 Non-typab

Result No.	Score	Query Match Length	DB ID	Description
1	1823	100.0	344	3 AAB18994 Abi18994 A P40 Pol
2	1823	100.0	344	3 AAB08317 Ab08317 An outer
3	1823	100.0	344	3 AAY9331 Amino aci
4	1823	100.0	344	3 AAB08825 A P40 Pol
5	1823	100.0	344	3 AAB18804 A Klebsie
6	1823	100.0	344	3 AAB08341 Ab08341 An outer
7	1823	100.0	344	4 AAG63698 Amino aci
8	1823	100.0	344	4 AAB67770 Ab67770 Amino aci
9	1823	100.0	344	4 AAM48395 Am48395 Klebsiell
10	1823	100.0	344	5 AAM47796 Am47796 Klebsiell
11	1823	100.0	344	8 AID00532 Adi00532 Klebsiell
12	1823	100.0	344	8 AID5607 K_pneumo
13	1823	100.0	344	8 AID138366 Adi38366 K_pneumo
14	1818	99.7	344	2 AAR93977 Aar93977 Protein L
15	1818	99.7	452	4 ABB67771 Amino aci
16	1813	99.5	344	2 AAY44077 Aay44077 K_pneumon
17	1813	99.5	344	4 AAG67743 Amino aci
18	1813	99.5	344	4 AAB84122 Amino aci
19	1822	97.8	385	7 ABO60934 Abo60934 Klebsiell
20	1781	97.7	335	2 ABR88257 Aar88257 K_pneumon
21	1781	97.7	335	2 AAR95644 Aar95644 Klebsiell
22	1781	97.7	335	2 ABR93796 Aar93796 Protein P
23	1289	70.7	369	6 ABm69278 Abm69278 Phototroph
24	1279	70.2	384	7 ADf07367 Adf07367 Bacterial
25	1026	56.3	188	2 AAR93798 Aar93798 Protein L

The present sequence represents a P40 polypeptide of Klebsiella pneumoniae. The protein is found in the membrane fraction, and is used in the method of the invention. The specification describes the use of a membrane fraction from Gram-negative bacteria for the preparation of an immunostimulating composition that can induce an anticancer immune response. The membrane fraction not only stimulates proliferation of human mononuclear blood cells (immunostimulation) but also induces production of tumour necrosis factor-alpha and interleukin (IL)-12, which are known to have antitumour activity, so that it improves the effects of other co-administered anticancer treatments (chemotherapy or radiation). The membrane fraction is used for treatment and prevention of cancer.

CC (particularly of the bladder, prostate, colon or liver) and also
 CC malignant melanomas
 XX
 SQ Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
 Best Local Similarity 100.0%; Pred. No. 1.1e-157; Mismatches 0; Indels 0; Gaps 0;

Db 1 MKAIFVUNAKPONTWYAGGRGLGMSQYHDGTGFYNGFQNNNGPRNDLQAGAARGGGYQVN 60

Qy 61 PYLGFMEMGDWLMGRMAYKESVDNGAFKAQCVOLTAGKPYTDDLDIYRIGGMWRADS 120

Db 121 KGNVASTGVSRSEHTGVSPVFGVENVAVTRDIA TRILEYQWVNNGIDAGTVTRPDNM 180

Db 121 KGNVASTGVSRSEHTGVSPVFGVENVAVTRDIA TRILEYQWVNNGIDAGTVTRPDNM 180

Qy 181 LSIGVSYRQGQDAAPVAPAPAPAPAVATRHTFLKSDVLFNFNKATLKPEQGQALDQY 240

Db 181 LSIGVSYRQGQDAAPVAPAPAPAPAVATRHTFLKSDVLFNFNKATLKPEQGQALDQY 240

Qy 241 TOLSNMDPKDGSAVVLGYTDRIGSEAYNQOLSKRAQSSWDYLVAKGIPAKGKISARGNGE 300

Db 241 TOLSNMDPKDGSAVVLGYTDRIGSEAYNQOLSKRAQSSWDYLVAKGIPAKGKISARGNGE 300

Qy 301 SNPVTGNTCDNVKARAALIDCLAPDRVEIEVKGYKEVNTQAG 344

Db 301 SNPVTGNTCDNVKARAALIDCLAPDRVEIEVKGYKEVNTQAG 344

RESULT 2
 AAB08317

ID AAB08317 standard; protein; 344 AA.

AC AAB08317;

XX

DT 04-DEC-2000 (first entry)

XX DE An outer membrane protein A (OmpA), designated P40.

XX Outer membrane protein A; OmpA; P40; cytotoxic T cell response; CTL response; tumour cell; vaccine; infection; tumour; melanoma; genetic vaccine.

KW OS Klebsiella pneumoniae.

XX PN WO200048628-A1.

XX PD 24-AUG-2000.

XX PR 17-FEB-2000; 2000WO-FR000393.

XX PR 17-FEB-1999; 99FR-00001917.

XX PA (FABR) FABRE MEDICAMENT SA PIERRE.

XX PT Renno T, Bonnefoy J;

XX DR WPI; 2000-543667/49.

XX DR N-PSDB; AAA63917.

XX PT Use of enterobacterial outer membrane protein A in vaccines for inducing cytotoxic T cell responses, useful for treating or preventing infections and tumors.

XX PT Claim 7; Page 38-39; 45pp; French.

XX CC The present sequence represents a Klebsiella pneumoniae outer membrane protein A (OmpA), designated P40. The enterobacterial OmpA polypeptide,

CC or its fragments, is used for preparing a composition that induces, or increases, the cytotoxic T cell (CTL) response against an infectious or agent or tumour cell. Compositions containing OmpA, optionally mixed with or coupled to a suitable antigen or hapten, are used as vaccines for treatment or prevention of infections caused by viruses, bacteria, fungi and parasites or tumors, particularly where associated with an antigen and specifically melanoma. Nucleic acids that encode OmpA (or its fusion with antigens or haptens) are useful as genetic vaccines again for CC treating infections and tumors

XX Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
 Best Local Similarity 100.0%; Pred. No. 1.1e-157; Mismatches 0; Indels 0; Gaps 0;

Db 1 MKAIFVUNAKPONTWYAGGRGLGMSQYHDGTGFYNGFQNNNGPRNDLQAGAARGGGYQVN 60

Qy 61 PYLGFMEMGDWLMGRMAYKESVDNGAFKAQCVOLTAGKPYTDDLDIYRIGGMWRADS 120

Db 121 KGNVASTGVSRSEHTGVSPVFGVENVAVTRDIA TRILEYQWVNNGIDAGTVTRPDNM 180

Db 121 KGNVASTGVSRSEHTGVSPVFGVENVAVTRDIA TRILEYQWVNNGIDAGTVTRPDNM 180

Qy 181 LSIGVSYRQGQDAAPVAPAPAPAPAVATRHTFLKSDVLFNFNKATLKPEQGQALDQY 240

Db 181 LSIGVSYRQGQDAAPVAPAPAPAPAVATRHTFLKSDVLFNFNKATLKPEQGQALDQY 240

Qy 241 TOLSNMDPKDGSAVVLGYTDRIGSEAYNQOLSKRAQSSWDYLVAKGIPAKGKISARGNGE 300

Db 241 TOLSNMDPKDGSAVVLGYTDRIGSEAYNQOLSKRAQSSWDYLVAKGIPAKGKISARGNGE 300

Qy 301 SNPVTGNTCDNVKARAALIDCLAPDRVEIEVKGYKEVNTQAG 344

Db 301 SNPVTGNTCDNVKARAALIDCLAPDRVEIEVKGYKEVNTQAG 344

RESULT 3
 AAV93341

ID AAV93341 standard; protein; 344 AA.

AC AAV93341;

XX DT 04-SEP-2000 (first entry)

XX DE Amino acid sequence of a Klebsiella P40 protein.

XX PN WO20027432-A1.

XX PD 18-MAY-2000.

XX PR 08-NOV-1999; 99WO-FR002734.

XX PR 06-NOV-1998; 99FR-00014007.

XX PA (FABR) FABRE MEDICAMENT SA PIERRE.

XX PI Bonnefoy J, Lecanet S, Aubry J, Jeannin P, Baussian T;

XX DR WPI; 2000-387342/33.

XX DR N-PSDB; AAA15498.

XX
PT Use of enterobacterial outer membrane protein A for delivering active
PT substances, particularly immunogens for treating or preventing e.g.
PT cancer, to antigen presenting cells.
XX
PS Claim 9; Page 28-29; 35pp; French.

CC The present sequence represents a P40 protein. The protein is an outer
membrane protein A (OmpA). The protein is used in pharmaceutical
compositions for specific targeting of an active substance to antigen-
presenting cells (APCs), especially dendritic cells. OmpA binds
specifically to APCs and is internalised by them (in contrast to other
protein carriers such as tetanus toxoid). The OmpA protein is used to
deliver an antigen or happen to modify (specifically to improve) an
immune response, especially for treatment or prevention of cancers
(particularly those that express a associated-associated antigen),
autoimmune disease, allergy, graft rejection, cardiovascular or central
nervous system diseases, inflammation, infection or immune deficiency
SQ Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Db 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Qy 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Db 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Qy 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Db 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Qy 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Db 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Qy 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Db 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Qy 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344
SQ **RESULT 4**
AAB08825 standard; protein; 344 AA.

XX
AC AAB08825;
XX
DT 02-JAN-2001 (first entry)

XX
DE A P40 polypeptide (an outer membrane protein A (OmpA)).
XX
KW P40; outer membrane protein A; OmpA; immunogen; cytokine; growth factor;
KW hormone; tumour-specific marker; vaccine; cancer; contraceptive.
OS Klebsiella pneumoniae.
PN FR2789902-A1.
XX
PD 25-AUG-2000.
XX
PP 24-FEB-1999; 99FR-00002314.
XX
PR 24-FEB-1999; 99FR-00002314.

PA (FABR) FABRE MEDICAMENT SA PIERRE.
XX
XX
PI Goetsch L, Corvia N, Beck A, Haeu JP, Bonnefond JY;
XX
DR WPI; 2000-573921/54.
DR DR-N-PSDB; AAI75036.

XX
PT Use of enterobacterial outer membrane protein as immunogenic carrier,
PT particularly for contraceptive and anti-cancer vaccines, provides strong
PT humoral response.
XX
PS Claim 5; Page 23-24; 34pp; French.
XX
CC The present sequence represents a P40 polypeptide of Klebsiella
pneumoniae. P40 is an enterobacterial outer membrane protein A (OmpA). It
can be associated an immunogen, and used to prepare a pharmaceutical
composition for improving the immunological response to the immunogen.
CC The immunogen is selected from cytokines, growth factors or hormones (or
CC their receptors) and/or tumour-specific markers. Compositions containing
CC OmpA induce a strong and specific antibody response. The compositions of
CC the invention are especially useful in vaccines to prevent or treat
CC cancer or as contraceptives
XX
SQ Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Db 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Qy 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Db 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Qy 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Db 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Qy 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Db 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Qy 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Db 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Qy 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344

PA (FABR) FABRE MEDICAMENT SA PIERRE.
XX
XX
PI Goetsch L, Corvia N, Beck A, Haeu JP, Bonnefond JY;
XX
DR WPI; 2000-573921/54.
DR DR-N-PSDB; AAI75036.

XX
PT Use of enterobacterial outer membrane protein as immunogenic carrier,
PT particularly for contraceptive and anti-cancer vaccines, provides strong
PT humoral response.
XX
PS Claim 5; Page 23-24; 34pp; French.
XX
CC The present sequence represents a P40 polypeptide of Klebsiella
pneumoniae. P40 is an enterobacterial outer membrane protein A (OmpA). It
can be associated an immunogen, and used to prepare a pharmaceutical
composition for improving the immunological response to the immunogen.
CC The immunogen is selected from cytokines, growth factors or hormones (or
CC their receptors) and/or tumour-specific markers. Compositions containing
CC OmpA induce a strong and specific antibody response. The compositions of
CC the invention are especially useful in vaccines to prevent or treat
CC cancer or as contraceptives
XX
SQ Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Db 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Qy 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Db 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Qy 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Db 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Qy 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Db 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Qy 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Db 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Qy 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344

PA (FABR) FABRE MEDICAMENT SA PIERRE.
XX
XX
PI Goetsch L, Corvia N, Beck A, Haeu JP, Bonnefond JY;
XX
DR WPI; 2000-573921/54.
DR DR-N-PSDB; AAI75036.

XX
PT Use of enterobacterial outer membrane protein as immunogenic carrier,
PT particularly for contraceptive and anti-cancer vaccines, provides strong
PT humoral response.
XX
PS Claim 5; Page 23-24; 34pp; French.
XX
CC The present sequence represents a P40 polypeptide of Klebsiella
pneumoniae. P40 is an enterobacterial outer membrane protein A (OmpA). It
can be associated an immunogen, and used to prepare a pharmaceutical
composition for improving the immunological response to the immunogen.
CC The immunogen is selected from cytokines, growth factors or hormones (or
CC their receptors) and/or tumour-specific markers. Compositions containing
CC OmpA induce a strong and specific antibody response. The compositions of
CC the invention are especially useful in vaccines to prevent or treat
CC cancer or as contraceptives
XX
SQ Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Db 1 MKAIFVINAARKDNTWYAGKLGSWQHDFTGNGFQNNNGPTRDOLGAGARGYQVN 60
Qy 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Db 61 PYLGFMGYDMLGRMAYKGSDUNGARFAQVQLTAKGYPTDDDIYTRIGGMVRADS 120
Qy 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Db 121 KGNYASTGVSVSEHDHTGVSPPVAGGYEWAVTRDIATRLEYQWVNNGDAGTVTRDNGM 180
Qy 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Db 181 LSLGVSYRFGQDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
Qy 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Db 241 TQLSNMDPKDGSAAVWVGYTDRIGSEANQOISERKRAQSVDYLVAKGIPACKISARGMGE 300
Qy 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPDRVEIWKGYKEVWTOPAG 344

XX
PF
XX
PR
XX
PA
(FABR) FABRE MEDICAMENT SA PIERRE.
XX
PI Libon C, Corvaja N, N' guyen TN, Beck A, Bonnefoy J;
XX
DR WPI; 2000-587/76/55.
XX
DR N-PSDB; AAA75881.
PT Use of Klebsiella membrane fraction as adjuvant, for e.g. antitumor or
PT antiviral vaccines, to direct a Th1, or mixed, immune response against
PT associated antigen.
XX
Disclosure: Page 28-29; 36pp; French.
CC The present sequence represents a Klebsiella pneumoniae P40 polypeptide.
CC The protein is isolated from a membrane fraction. The specification
describes the use of a membrane fraction from Klebsiella pneumonia,
associated with an antigen or hapten, for preparation of a pharmaceutical
composition that directs a Th1, or mixed Th1/Th2 immune response. The
composition is used for treatment or prevention of infectious diseases
(viral, bacterial, fungal or parasitic) or cancers, most especially respiratory syncytial virus
CC or parainfluenza
XX
Sequence 344 AA:
Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVNLAAKPDNTWYAGKLGSQYHDTGFGYNGFQNNNGPTRNDLQGAGAFGGYQVN 60
Db 1 MKAIFVNLAAKPDNTWYAGKLGSQYHDTGFGYNGFQNNNGPTRNDLQGAGAFGGYQVN 60
QY 61 PYLGFMGYPMGLGRMAYKGSKVDNGAFAKGQVOLTAKLGYITPDDIYTRLGGMWRADS 120
Db 61 PYLGFMGYPMGLGRMAYKGSKVDNGAFAKGQVOLTAKLGYITPDDIYTRLGGMWRADS 120
QY 121 KGNYASTGVSRSEHDGTGSPVFGGEWAATRDIATRIBYQWNNNGDAGTVGTRPDNM 180
Db 121 KGNYASTGVSRSEHDGTGSPVFGGEWAATRDIATRIBYQWNNNGDAGTVGTRPDNM 180
QY 181 LSLGVSYRFQGDAAPVAPAPAPAEVATHFTUKSDVIFENFKATKPEGQOALDOLY 240
Db 181 LSLGVSYRFQGDAAPVAPAPAPAEVATHFTUKSDVIFENFKATKPEGQOALDOLY 240
QY 241 TOLSNMDPKODGSAVVLGYTDRIGSEANQOLESEKRAQSVVYDYLVAKGIPAKTSARGMGE 300
Db 241 TOLSNMDPKODGSAVVLGYTDRIGSEANQOLESEKRAQSVVYDYLVAKGIPAKTSARGMGE 300
QY 301 SNPVTGNTCDNVKARALIDCLAPRRVEEVKGKEVWTQAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPRRVEEVKGKEVWTQAG 344
RESULT 6
AAB08341
ID AAB08341 Standard; protein; 344 AA.
XX
AC AAB08341;
XX
DT 04-DBC-2000 (first entry)
DE An outer membrane protein A (OmpA), designated p40.
XX
KW Outer membrane protein A; OmpA; P40; cytotoxic T cell response; tumour;
KW CTL response; tumour cell; vaccine; melanoma; genetic vaccine.
XX
OS Klebsiella pneumoniae.

XX
WO200048629-A1.
XX
PR 24-AUG-2000.
XX
PR 17-FEB-2000; 2000WO-FR000394.
XX
PR 17-FEB-1999; 99FR-00001917.
XX
PA (FABR) FABRE MEDICAMENT SA PIERRE.
XX
PI Reno T, Romero P, Miconet I, Carottini J, Bonnefoy J;
XX
DR WPI; 2000-549238/50.
XX
DR N-PSDB; AAA63955.
XX
PT Use of enterobacterial outer membrane protein A in vaccines, used to
PT treat or prevent melanoma, includes melanoma-specific peptide and induces
PT cytotoxic lymphocyte response.
XX
PS Claim 6; Page 30-31; 36pp; French.
XX
The present sequence represents a Klebsiella pneumoniae outer membrane
protein A (OmpA), designated P40. The enterobacterial OmpA polypeptide,
or its fragments, is used for preparing a composition that induces, or
increases, the cytotoxic T cell (CTL) response against tumour cells.
CC Compositions containing OmpA, optionally mixed with or coupled to a
buttable antigen or hapten, are used as vaccines for treatment or
prevention of tumors, particularly where associated with an antigen and
specifically melanoma. Nucleic acids that encode OmpA (or its fusion with
CC antigens or haptens) are useful as genetic vaccines again for treating
CC tumors.
XX
Sequence 344 AA:
Query Match 100.0%; Score 1823; DB 3; Length 344;
Best Local Similarity 100.0%; Pred. No. 1.1e-157;
Matches 344; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKAIFVNLAAKPDNTWYAGKLGSQYHDTGFGYNGFQNNNGPTRNDLQGAGAFGGYQVN 60
Db 1 MKAIFVNLAAKPDNTWYAGKLGSQYHDTGFGYNGFQNNNGPTRNDLQGAGAFGGYQVN 60
QY 61 PYLGFMGYPMGLGRMAYKGSKVDNGAFAKGQVOLTAKLGYITPDDIYTRLGGMWRADS 120
Db 61 PYLGFMGYPMGLGRMAYKGSKVDNGAFAKGQVOLTAKLGYITPDDIYTRLGGMWRADS 120
QY 121 KGNYASTGVSRSEHDGTGSPVFGGEWAATRDIATRIBYQWNNNGDAGTVGTRPDNM 180
Db 121 KGNYASTGVSRSEHDGTGSPVFGGEWAATRDIATRIBYQWNNNGDAGTVGTRPDNM 180
QY 181 LSLGVSYRFQGDAAPVAPAPAPAEVATHFTUKSDVIFENFKATKPEGQOALDOLY 240
Db 181 LSLGVSYRFQGDAAPVAPAPAPAEVATHFTUKSDVIFENFKATKPEGQOALDOLY 240
QY 241 TOLSNMDPKODGSAVVLGYTDRIGSEANQOLESEKRAQSVVYDYLVAKGIPAKTSARGMGE 300
Db 241 TOLSNMDPKODGSAVVLGYTDRIGSEANQOLESEKRAQSVVYDYLVAKGIPAKTSARGMGE 300
QY 301 SNPVTGNTCDNVKARALIDCLAPRRVEEVKGKEVWTQAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPRRVEEVKGKEVWTQAG 344
RESULT 7
AAGE3698
ID AAGE3698 standard; protein; 344 AA.
XX
AC AAG63698;
XX
DT 29-OCT-2001 (first entry)
XX
DE Amino acid sequence of an outer membrane protein A, P40.

XX
 KW Outer membrane protein A; P40; antigen presenting cell; vaccine;
 KW anti-viral; anti-bacterial; anti-cancer; autoimmune disease; inflammation;
 XX graft rejection; cardiovascular disease; immune deficiency.
 OS Klebsiella pneumoniae.

XX
 PN FR2803302-A1.
 XX
 PD 06-JUL-2001.
 XX
 PR 04-JAN-2000; 2000FR-00000070.
 XX 04-JAN-2000; 2000FR-00000070.
 XX
 PA (FABR) FABRE MEDICAMENT SA PIERRE.
 XX
 PI Bausant T, Jeannin P, Delnate Y, Lawry R, Bonnefoy JY,
 XX
 DR WPI; 2001-427232/46.
 XX N-PSDB; AAH74771.

XX
 Claim 9; Page 24-25; 34pp; French.

PS
 CC The present sequence represents an outer membrane protein A (P40) of
 Klebsiella pneumoniae. The protein is soluble in aqueous solvent in
 absence of detergent. The specification describes a method for the
 preparation of this polypeptide. The P40 protein binds selectively to
 antigen-presenting cell, so provides targeting, proliferation and/or
 expression of molecules by these cells. P40 is used, alone or as an
 adjuvant, to produce therapeutic compositions that are soluble in absence
 of detergent, especially when formulated with an antigen or hapten for
 modulating the host's immune system. Especially, it is used to prepare
 vaccines, especially anti-viral, anti-bacterial or anti-cancer (e.g. against
 human immune deficiency virus, respiratory syncytial virus, measles,
 mumps, tuberculosis etc.), but also against fungi, parasites, autoimmune
 diseases, graft rejection, cardiovascular disease, inflammation and
 immune deficiency.

CC Sequence 344 AA:

Query Match	100.0%	Score 1823	DB 4;	Length 344;
Best Local Similarity	100.0%	Pred. No. 1.e-157;		
Matches	344;	Conservative	0;	Mismatches 0;
			Indels 0;	Gaps 0;

Qy 1 MKAIFVLAAPKDNNTWAGKLKGWSQHDPTDFYGNQFQNNNGPTRDOLGAGAFGGYQN 60
 1 MKAIFVLAAPKDNNTWAGKLKGWSQHDPTDFYGNQFQNNNGPTRDOLGAGAFGGYQN 60

Oy 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120
 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120

Qy 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180
 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180

Db 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180
 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180

Qy 181 LSLGVSYRFQGDAAPVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
 181 LSLGVSYRFQGDAAPVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240

Db 241 TOLSINNDPKOGSAAVLYGTYDRIGSEAYNQSEKRAQSUVYLVAKGIPAGKISARGMGE 300
 241 TOLSINNDPKOGSAAVLYGTYDRIGSEAYNQSEKRAQSUVYLVAKGIPAGKISARGMGE 300

Qy 301 SNPVGTGTCDVNKARALIDOLAPDRRVEEVKGKIVETPOAG 344
 301 SNPVGTGTCDVNKARALIDOLAPDRRVEEVKGKIVETPOAG 344

OS Klebsiella pneumoniae.

XX
 PN WO200121203-A1.
 XX
 PD 29-MAR-2001.
 XX
 PR 22-SEP-2000; 2000WO-FR002626.
 XX
 PA (FABR) FABRE MEDICAMENT SA PIERRE.
 XX
 PT Corvinea N, Goestch L;
 XX
 DR WPI; 2001-257939/26.
 XX N-PSDB; AAP80152.

XX
 Claim 3; Page 28-29; 34pp; French.

PS
 CC Vaccine against respiratory syncytial virus, comprises enterobacterial
 outer membrane protein and viral immunogen, provides protective response
 throughout the respiratory tract.

CC
 The present sequence represents an outer membrane protein A (OmpA),
 designated P40. Enterobacterium OmpA protein, associated with an
 immunogenic peptide from respiratory syncytial virus (RSV), are used to
 prepare a nasal composition that induces a protective response, against
 RSV infection in the upper and lower (lung) respiratory tract. OmpA
 potentiates the immune response to some immunogenic peptides, eliminating
 the need for adjuvants. The method is useful for producing vaccines for
 prevention or treatment of RSV infections.

CC Sequence 344 AA:

Query Match	100.0%	Score 1823	DB 4;	Length 344;
Best Local Similarity	100.0%	Pred. No. 1.e-157;		
Matches	344;	Conservative	0;	Mismatches 0;
			Indels 0;	Gaps 0;

Qy 1 MKAIFVLAAPKDNNTWAGKLKGWSQHDPTDFYGNQFQNNNGPTRDOLGAGAFGGYQN 60
 1 MKAIFVLAAPKDNNTWAGKLKGWSQHDPTDFYGNQFQNNNGPTRDOLGAGAFGGYQN 60

Oy 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120
 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120

Qy 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120
 61 PYLGFERGYDYLGRMAYKGSDVNGAFAQVQVLTAKLGYPTDDDIYTRIGMMWRADS 120

Db 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180
 121 KGYNASTGVSSSEHTDGVSPVFGAGGEWAVERTDIATRLEQWNNGDAGTVGRPDGM 180

Qy 181 LSLGVSYRFQGDAAPVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240
 181 LSLGVSYRFQGDAAPVAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP 240

Db 241 TOLSINNDPKOGSAAVLYGTYDRIGSEAYNQSEKRAQSUVYLVAKGIPAGKISARGMGE 300
 241 TOLSINNDPKOGSAAVLYGTYDRIGSEAYNQSEKRAQSUVYLVAKGIPAGKISARGMGE 300

Qy	301	SNPVGTGNTCDNVKARAALIDCLAPDRRYIEVKGYKEVUTQAG	344	Db	301	SNPVGTGNTCDNVKARAALIDCLAPDRRYIEVKGYKEVUTQAG	344
Db	301	SNPVGTGNTCDNVKARAALIDCLAPDRRYIEVKGYKEVUTQAG	344	RESULT 9			
				AM48395	ID	AM47796	RESULT 10
				AAM48395 standard; protein; 344 AA.	ID	AM47796 Standard; protein; 344 AA.	
				XX	XX	XX	
				AC	AC	AAM47795;	
				XX	XX	XX	
				DT	DT	01-MAR-2002 (first entry)	
				XX	XX	Klebsiella pneumoniae outer membrane protein, OmpA.	
				XX	XX	OmpA; outer membrane protein; cytostatic; cancer; tumour antigen.	
				Klebsiella pneumoniae.	OS	Klebsiella pneumoniae OmpA protein.	
				XX	XX	OmpA; enterobacterium; antibacterial; antifungal; antiviral; antiparasitic; antimicrobial; infection.	
				XX	XX	Klebsiella pneumoniae.	
				PN	PN	Klebsiella pneumoniae OmpA protein.	
				WO200182959-A1.	WO200187326-A1.	Klebsiella pneumoniae OmpA protein.	
				XX	XX	Klebsiella pneumoniae OmpA protein.	
				PD	PD	08-NOV-2001.	
				XX	XX	03-MAY-2001; 2001WO-FR001348.	
				PF	PF	04-MAY-2000; 2000FR-00005702.	
				XX	XX	(FABR) FABRE MEDICAMENT SA PIERRE.	
				PA	PA	Reino T, Invernizzi I, Bonnefoy J;	
				XX	XX	PTI Jeannin P, Delneste Y, Bussant T;	
				DR	XX	DR WPI; 2002-066490/09.	
				XX	XX	XX Composition, useful for treatment and prevention of cancer, also for detecting tumor antigens, comprises an outer membrane protein and tumor lysate.	
				PS	PS	Claim 5; Page 25-26; 32pp; French.	
				XX	XX	The present invention relates to a pharmaceutical composition, comprising an Outer Membrane Protein (e.g., OmpA), associated with a lysate of such OmpA from Klebsiella pneumoniae. The composition is useful for the treatment of cancers, particularly where associated with tumour antigens, and for detecting tumour antigens	
				SQ	SQ	Sequence 344 AA;	
				Query Match	Query Match	100.0%; Score 1023; DB 5; Length 344;	
				Best Local Similarity	Best Local Similarity	100.0%; Pred. No. 1..1e-15;	
				Matches	Matches	; Mismatches 0; Indels 0; Gaps 0;	
Qy	1	MKAIFVLNAAKPDKNTWYAGGKGKGSQYHDTGFYGNQFQNNNGPRNDQDLAGARGGGYQVN	60	Qy	1	MKAIFVLNAAKPDKNTWYAGGKGKGSQYHDTGFYGNQFQNNNGPRNDQDLAGAGGGYQVN	60
Db	1	MKAIFVLNAAKPDKNTWYAGGKGKGSQYHDTGFYGNQFQNNNGPRNDQDLAGAGGGYQVN	60	Db	1	MKAIFVLNAAKPDKNTWYAGGKGKGSQYHDTGFYGNQFQNNNGPRNDQDLAGAGGGYQVN	60
Qy	61	PYLGFREMGTDWLGRMAYKGSVDNGAFAKQGVOLTAKLGYPITDDLDIYTRLGGMWRADS	120	Qy	61	PYLGFREMGTDWLGRMAYKGSVDNGAFAKQGVOLTAKLGYPITDDLDIYTRLGGMWRADS	120
Db	61	PYLGFREMGTDWLGRMAYKGSVDNGAFAKQGVOLTAKLGYPITDDLDIYTRLGGMWRADS	120	Db	61	PYLGFREMGTDWLGRMAYKGSVDNGAFAKQGVOLTAKLGYPITDDLDIYTRLGGMWRADS	120
Qy	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180	Qy	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180
Db	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180	Db	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180
Qy	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180	Qy	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180
Db	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180	Db	121	KGNVASTGVSRSEDTGSPVFGGVEWAVTROIATRIEYQWNINIGAGTVTRPDRGM	180
Qy	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240	Qy	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240
Db	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240	Db	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240
Qy	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240	Qy	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240
Db	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240	Db	181	LISLGVSYRFQGEDAAPVVAAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAPAP	240
Qy	241	TOLSNMDPKDGSAVVGLGYTDIGSEAYNOOLSERKRAQSVDYLVAKGIPAGKLSARGMGE	300	Qy	241	TOLSNMDPKDGSAVVGLGYTDIGSEAYNOOLSERKRAQSVDYLVAKGIPAGKLSARGMGE	300
Db	241	TOLSNMDPKDGSAVVGLGYTDIGSEAYNOOLSERKRAQSVDYLVAKGIPAGKLSARGMGE	300	Db	241	TOLSNMDPKDGSAVVGLGYTDIGSEAYNOOLSERKRAQSVDYLVAKGIPAGKLSARGMGE	300
Qy	301	SNPVGTGNTCDNVKARAALIDCLAPDRRYIEVKGYKEVUTQAG	344	Qy	301	SNPVGTGNTCDNVKARAALIDCLAPDRRYIEVKGYKEVUTQAG	344

RESULT 11
AD100532
ID ADI00532 standard; protein; 344 AA.

XX
AC AD100532;
XX
DT 15-APR-2004 (first entry)

XX
DE Klebsiella pneumoniae OmpA P40 protein.

XX
KW solubility; virucide; antibacterial; parasiticide; fungicide; cytostatic;
KW vaccine; viral; bacterial; parasitic; fungal infection; cancer;
KW gene therapy; cosmetic; major histocompatibility complex; MHC;

KW cytotoxic T lymphocyte; CTL; OmpA; P40.
XX
OS Klebsiella pneumoniae.

XX
PN FR2842812-A1.

XX
PD 30-JAN-2004.

XX
PR 26-JUL-2002; 2002FR-00009526.

XX
PA (FABR) FABRE MEDICAMENT SA PIERRE.

XX
PI Beck A, Corvai N, Klinguer HC, Goetsch L;

XX
PT Solubilizing hydrophobic peptides, useful e.g. in vaccines against
PT infections microbes or tumors, by attachment of at least three lysine
PT residues.

XX
PS Disclosure; SEQ ID NO 72; 65pp; French.

XX
CC The invention relates to a novel method for solubilising, or improving
CC the solubility of, a peptide in aqueous medium comprising covalent
CC attachment of at least 3 residues of Lys, in L or D form, distributed
over the N and/or C termini in the form of a linear or branched chain.
CC The invention has virucide, antibacterial, parasiticide, fungicide and
CC cytostatic activities and may be used to generate prophylactic or
therapeutic vaccines or compositions for control of viral, bacterial,
CC parasitic or fungal infections or cancers, as well as during gene therapy
CC procedures. The peptides of the invention may also be used in cosmetic
CC compositions. The current sequence is that of the Klebsiella pneumoniae
XX OmpA P40 protein of the invention.

XX
Sequence 344 AA:

Query Match 100.0%; Score 1823; DB 8; Length 344;

Best Local Similarity 100.0%; Pred. No. 1.1e-157; Indels 0; Gaps 0;

Matches 344; Conservative 0; Mismatches 0;

XX
QY 1 MKAIFVLAAPKDNTWVAGGKLGWSQHDTGFGYNGFQNNNGPTNDQLQLGAGFGQYVN 60

Db 1 MKAIFVLAAPKDNTWVAGGKLGWSQHDTGFGYNGFQNNNGPTNDQLQLGAGFGQYVN 60

61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

QY 61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

121 KGNYASTGVRSSEHDYGVSPIFAGGEWAIVTRDIATRLEYQWNNGDAGTGTRPDMG 180

121 KGNYASTGVRSSEHDYGVSPIFAGGEWAIVTRDIATRLEYQWNNGDAGTGTRPDMG 180

181 LSIGYSYRFQGEDAAPVAPAPAPBVAVTHPTKSDMVRNPGKATLKEQQDQLQY 240

181 LSIGYSYRFQGEDAAPVAPAPAPBVAVTHPTKSDMVRNPGKATLKEQQDQLQY 240

QY 241 TOLSNMDPKOGSAWVLYGTYDRIGSEAYNOOLSEKERQSVVDYLVAKGIPAGKISARGMG 300
ID AD15607 Standard; protein; 344 AA.

XX
Db 241 TOLSNMDPKOGSAWVLYGTYDRIGSEAYNOOLSEKERQSVVDYLVAKGIPAGKISARGMG 300

QY 301 SNPVTGNTCDNVKARALIDCLAPRRVEVKGKKEYVTPAG 344
Db 301 SNPVTGNTCDNVKARALIDCLAPRRVEVKGKKEYVTPAG 344

RESULT 12
AD15607 AD15607 Standard; protein; 344 AA.

XX
AC AD15607;
XX
DT 22-APR-2004 (first entry)

XX
DE K. pneumoniae P40 amino acid sequence, seq id 72.

XX
KW Vaccine; gene therapy; solubility; MHC ligand;
KW major histocompatibility complex; hydrophobic epitope;
KW microbial pathogen; tumour; melanoma; Melan/Mart-1; 4B-ELA; viral;
KW bacterial; parasitic; fungal; infection; cancer; p40.

XX
OS Klebsiella pneumoniae.

XX
PN FR2842811-A1.

XX
PD 30-JAN-2004.

XX
PA (FABR) FABRE MEDICAMENT SA PIERRE.

XX
PI Beck A, Corvai N, Klinguer HC, Goetsch L;

XX
PT Solubilizing hydrophobic peptides, useful e.g. in vaccines against
PT infections microbes or tumors, by attachment of at least three arginine
PT residues.

XX
PS Disclosure; SEQ ID NO 72; 70pp; French.

XX
CC The invention relates to a method for solubilising, or improving the
CC solubility of a peptide (I) in aqueous medium, comprising covalent
CC attachment of at least 3 residues of Arg and/or Lys, provided at least
one is Arg, in the L or D form, distributed over the N and/or C termini
CC in the form of a linear or branched chain. Also disclosed are peptide
CC ligands (Ia) of MHC (major histocompatibility complex) modified in the
CC manner described above, and a vaccine containing at least one peptide
CC that contains at least one hydrophobic epitope derived from an antigenic
protein of a microbial pathogen or tumour that is modified by the new
CC method or is (Ia). Four peptides, unmodified, are specifically claimed,
e.g. the Melanoma Melan/Mart-1 peptide (4R-B1a). Solubilised peptides of
the invention, where derived from peptides that include at least one
CC hydrophobic epitope from a microbial pathogen or from a tumour-associated
protein, are used in prophylactic or therapeutic vaccines or compositions
CC for control of viral, bacterial, parasitic or fungal infections or
CC cancers. Nucleic acids that encode the solubilised (I) can be used
similarly. The solubilised peptide can also be used in cosmetic
CC compositions. The current sequence represents the K. pneumoniae p40 amino
CC acid sequence.

XX
Sequence 344 AA;

Query Match 100.0%; Score 1823; DB 8; Length 344;

Best Local Similarity 100.0%; Pred. No. 1.1e-157; Indels 0; Gaps 0;

Matches 344; Conservative 0; Mismatches 0;

XX
QY 1 MKAIFVLAAPKDNTWVAGGKLGWSQHDTGFGYNGFQNNNGPTNDQLQLGAGFGQYVN 60

Db 1 MKAIFVLAAPKDNTWVAGGKLGWSQHDTGFGYNGFQNNNGPTNDQLQLGAGFGQYVN 60

61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

QY 61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

61 PYLGFEMGYDYLGRMAYKGSVNGAFAKGQVLTAKLGYITPDDIYTRGGWWRADS 120

121 KGNYASTGVRSSEHDYGVSPIFAGGEWAIVTRDIATRLEYQWNNGDAGTGTRPDMG 180

121 KGNYASTGVRSSEHDYGVSPIFAGGEWAIVTRDIATRLEYQWNNGDAGTGTRPDMG 180

181 LSIGYSYRFQGEDAAPVAPAPAPBVAVTHPTKSDMVRNPGKATLKEQQDQLQY 240

181 LSIGYSYRFQGEDAAPVAPAPAPBVAVTHPTKSDMVRNPGKATLKEQQDQLQY 240

QY 1 MKAIFVLAAPKDNTWVAGGKLGWSQHDTGFGYNGFQNNNGPTNDQLQLGAGFGQYVN 60

RESULT ID: ADT38366
 ID: ADT38366 standard; protein; 344 AA.
 XX
 AC ADT38366;
 XX DT 22-APR-2004 (first entry)
 XX DE K. pneumoniae OmpA P40, seq id 2.
 XX KW Cytostatic; vaccine; beta-hCG; human chorionic gonadotropin; beta-chain;
 XX KW cytotoxic T lymphocyte; CTL; cancer; OmpA; P40.
 OS Homo sapiens.
 XX PN FR2839452-A1.
 XX PD 14-NOV-2003.
 XX PR 07-MAY-2002; 2002FR-00005691.
 XX 07-MAY-2002; 2002FR-00005691.
 XX PA (FABR) FABRE MEDICAMENT SA PIERRE.
 XX PT Goetsch L, Aubry JP, Klinguer HC, Corvain N, Beck A;
 XX DR WPI; 2004-001390/01.
 XX PT New peptides from human chorionic gonadotropin, useful for treatment or
 XX prevention of cancer, induce a cytotoxic T cell response.
 XX PS Claim 9; SEQ ID NO 2; 86pp; French.
 XX
 The invention relates to the use of a peptide (I), encoded by a genomic
 CC fragment of the gene for beta-hCG (human chorionic gonadotropin, beta-
 CC chain), or one of its analogs, to prepare a pharmaceutical composition
 CC for generating cytotoxic T lymphocytes (CTL). Peptides of the invention
 CC associate with MHC Class I molecules to generate (I)-specific CTL,
 CC causing expression of gamma-interferon and tumour necrosis factor-alpha,
 CC directed against hCG+ tumour cells. Peptides of the invention and nucleic
 acids that encode them, are used, particularly as vaccine, for treatment
 CC or prevention of cancers that are positive for the hCG marker. The
 CC current sequence represents the K. pneumoniae OmpA P40 amino acid
 CC sequence.
 Sequence 344 AA;
 SQ

Page
9

oligosaccharide from *S. enteritidis* can be used to provide protection against septicaemia caused by *S. Typhi* and against typhoid fever, as well as to protect humans and animals from toxic infections and zoonosis caused by *Salmonella* of the same serogroup. The carrier proteins enhance the immunogenicity of the oligo- or polysaccharide antigens. Inclusion of additional *Salmonella* capsule antigens, such as the Vi antigen, increases the vaccine's efficacy against encapsulated bacteria. The present sequence, protein LP40, is a preferred example of a carrier protein which can be used in the immunocomplex. It is obtained by recombinant expression of a modified Kleb. pneumoniae I-145 P40 gene in *E. coli*

XX
PT vaccine against respiratory syncytial virus, comprises enterobacterial
PT outer membrane protein and viral immunogen, provides protective response
PT throughout the respiratory tract.
XX
PS Example 2; Page 31-32; 39pp; French.

XX
CC The present sequence represents a fusion protein comprising a *Klebsiella*
CC pneumoniae outer membrane protein A (OmpA) designated P40 and a
CC respiratory syncytial virus (RSV) antigen. *Enterobacterium* OmpA proteins,
CC associated with an immunogenic peptide from RSV are used to prepare a
nasal composition that induces a protective response, against RSV

Query Match 99.7%; Score 1818; DB 2; Length 344;
 Best Local Similarity 99.7%; Pred. No. 3e-157; i: Matches 343;保守型 0; Mismatches 0; Indels 0; Gaps 0;

CC
CC infection in the upper and lower (lung) respiratory tract. Omega-
CC potentiates the immune response to some immunogenic peptides, eliminating
CC the need for adjuvants. The method is useful for producing vaccines for
CC prevention or treatments of RSV infections

Qy
1 MKAIFVLMAAPKONTWYAGKGKQWQYDFTGFGNGFQNNNGPFRNDOLGAGAFCGYQVN 60
1 MKAIFVLMAAPKONTWYAGKGKQWQYDFTGFGNGFQNNNGPFRNDOLGAGAFCGYQVN 60
6.1 DYGPERMCGTMI GPMVAKCYSUNMCRNPKCQCN TAKC CDTMNTN D TWTM CTKHNGCN 120
Db
Qv

SQ Sequence 452 Ma;
 Query Match 99.7%; Score 1818; DB 4; Length 452;
 Best Local Similarity 99.7%; Pred. No. 4.4e157;

QY
121 KGYIYSTGVRSSEBDTGSPVPGGNEWATRDTAIRELYKWNINIGDAGTVGRPDNCM 180
62 PYLGPEMGYDWLGRMAYKGSVUDNGAFKAQGVOLTAKUGSPITDDDLIVRLGGMWRADS 120

Qy	Db	matches	343;	conservative	0;	mismatches	1;	Indels	0;	Gaps	0;
		1	MKA	FVNLNAAPKDNWYAGGKLKGWSQHYDTPRGYCNGPQNNGPTTRNDLGAGRRGGYQN	60						
		1	MKA	FVNLNAAPKDNWYAGGKLKGWSQHYDTPRGYCNGPQNNGPTTRNDLGAGRRGGYQN	60						
		1	MKA	FVNLNAAPKDNWYAGGKLKGWSQHYDTPRGYCNGPQNNGPTTRNDLGAGRRGGYQN	60						

Qy	Db
181 LSGVSYRQEDAPVWAPAPAPAPEVATKHFILSKDULFNRRKKATIKPPEGQALDOLY	121 KGNAYASTGVSRSEHTGVSPIVAGGEVAVTRDIAATRABYQWVNNGAGTVGPRPDNGM 180

Qy	Db
6.1	PYLGFEMGYDWLGRMAYKGSVUDNGAFKAQGVOLTAKLGYPTDDIYTRIGGMWRA D 6.1
	PYLGFEMGYDWLGRMAYKGSVUDNGAFKAQGVOLTAKLGYPTDDIYTRIGGMWRA D 6.1

Db	Qy	181	LSLGVSYSPGQEDAAWPAPAPAPEVATKHTFLKSDYLNFENKTAKLKEPGQQALDQY	240
241	TQLSNMDDPKGSAWVLGLTDRGSBAYNQOLSKERAQSVWYDLYVAKGIPAGKISARGMGBE	300	TQLSNMDDPKGSAWVLGLTDRGSBAYNQOLSKERAQSVWYDLYVAKGIPAGKISARGMGBE	
241	TOLSNMDPKGSAWVLGLTDRGSBAYNQOLSKERAOSTVYVVAKCTPAGKISARGMGBE	300	TOLSNMDPKGSAWVLGLTDRGSBAYNQOLSKERAOSTVYVVAKCTPAGKISARGMGBE	

QY	301	SNPVTGNITCDNVKARAAIIDCLAPDRRVEIYGKYKEVUTQAG	344
Db	301	SNPVTGNITCDNVKARAAIIDCLAPDRRVEIYGKYKEVUTQAG	344

151 LLSQSKINQDADAEVAKAEEALKVAKKIEIUSQDVMFNAALDKFESQGQALDQI 245
181 LSIGSVYRFQOEDAPAPVAPAPAPAPBEPATKHTLKSDVLFENFKATLKPEQSQALDQI 240
241 TQLSNMPDKGSAAVVLGYTDRIGSEAYNQOLSKRAQSVDYLWAKGIPIAKISARGME 300

RESULT 15
AAB6771
ID AAB6771 standard; protein; 452 AA.

Db	QY	301	SNPVIGNTCDNVKARRAALIDCLAPRRVETEVKGKYEVVVTQAG	344	241	TQISNMDPKDGSAAVTLGYTDRIGSAYNQOLSEKRAQSVDLIVAKGIPAGKISARGMGE	300
----	----	-----	----------------------------------------------	-----	-----	-------------------------------------------------------------	-----

XX
AC AAB67771;
XX DT
XX 11-JUN-2001 (first entry)
XX

Search completed: January 19, 2005, 18:14:48
Job time : 85 secs
Db 301 SNPVTGNTCDNVKRAALIDCLAPDRRYELI

Amino acid sequence of a fusion protein of P40 and RSV antigen.
Outer membrane protein A; OmpA; P40; enterobacteria; nasal composition;
RSV; RSV infection; lung; respiratory tract; vaccine.

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